

Chemical Conditioners For Hay Yields Mixed Results

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ALLENTOWN (Lehigh) — A recent development in hay technology involves the use of chemicals which increase the drying rate of cut forage. If we reduce drying time, we increase our chances of getting hay baled before it rains.

Several products have appeared on the market and have been referred to as desiccants, drying agents, and/or chemical conditioners. These should be distinguished from chemical hay preservatives that are used on high moisture hay at time of baling. What are some of the basic chemicals used in these desiccant formulations? The original work in Australia used straight potassium carbonate solution. In the United State, some chemical formulations include mixtures of potassium and sodium carbonate. Some have also added sodium silicate, methyl ester of fats, vegetable oils and animal fat.

What is most effective? Tests conducted at Michigan State University have shown that potassium carbonate and/or sodium carbonate solution worked as well as any in improving field drying.

Researchers at Maryland, Michigan and New Hampshire all agree that drying agents work best

for second and third cuttings and are least effective at the first cut or an autumn cut. Generally, at the first cut, there is more forage to dry off, soil moisture is higher, air temperatures are lower and relative humidity is higher than during second and third cuts.

Chemical conditioners work well on legumes, such as alfalfa, birdsfoot trefoil and red clover, but they are not effective on grasses. In a legume-grass mixture, they appear to work well because the drying rate of the legume becomes about the same as that of the grass.

What is the rate of application? Depending on the product used, it will vary from about 5.7 to 8.0 pounds per ton of hay equivalent. For most harvests, this will mean a chemical cost of \$5.00 to \$10.00 per ton of hay.

Normally, the chemical is applied at the mower-conditioner. There are two techniques commonly used. With the first, a spray boom is mounted ahead of the reel and a push bar lays the crop over allowing the spray to contact the stems. The other method is to mount the spray nozzles behind the reel but in front of the rolls.

Michigan State University has reported that the more solution applied, the faster the drying. They recommend at least 30 gallons of solution per acre for good cover-

age for second and third cut alfalfa. New Hampshire reported that 15 to 20 gallons per ton of hay is effective. Attempts to use lower rates of carrier have given mixed results.

At these high carrier rates are the major limiting factor of this technology. Refilling tanks and adding chemicals will use up important time that should be used mowing. Therefore, a hay produc-

er will need a nurse tank, filled with enough pre-mixed solution to cover the area he intends to cut that day, mounted on a truck and equipped with a fast delivery gasoline-driven pump in order to maintain high cutting time efficiency. Also, these solutions do require good agitation to keep the chemical from settling in the tank. It is best to add the chemical (a dry powder) slowly into a half-filled

tank under constant agitation.

What is the future with hay chemical drying agents? There is potential for the technology, especially for cash crop producers and farmers who are limited to hay systems as their only means of forage preservation. As of now, these products are an addition to and not a substitute for our conventional hay making techniques.

Eastern Shell Egg School Next Week

OCEAN CITY, MD — The Maryland Department of Agriculture (MDA) will be hosting the internationally respected 57th Eastern Shell Egg Quality School on June 5-9 at the Carousel Hotel in Ocean City, Maryland.

Originated by the Northeastern Poultry Producers Council, this year's conference is sponsored by Southern United Egg Producers. It is co-sponsored and staffed by the United States Department of Agriculture; the state departments of Agriculture of Maryland and Virginia, and poultry science departments of the University of Maryland, North Carolina State University, University of Georgia, and Virginia Tech.

Thomas O. Meredith, Jr., Administrator of MDA's Egg Inspection

program, will head the laboratory section, where students receive instruction in the actual handling of eggs, learning candling techniques, how to assess shell quality and interior egg quality, how to determine correct weights and sizes, and how to use Haugh units to determine egg freshness.

MDA Egg Inspectors Deanna Baldwin, Margaret Benbow, Jim Greer, James Johnson and Ron Rogers have been selected as instructors. Each will be assigned a small group of students who will receive the individualized instruction which has proven so successful in past schools.

Rated the best egg quality school in the United States, this session attracts foreign students — for example, two years ago the Egg

and Poultry Administrator from the Danish Ministry of Agriculture completed this intensive course.

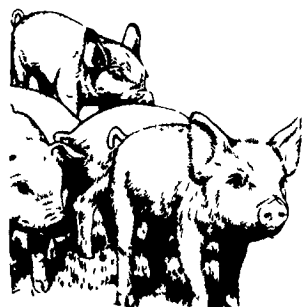
"We feel privileged to be hosting this important study session," said Secretary of Agriculture Wayne A. Cawley, Jr., "and are happy to be able to provide the help of our outstanding staff and the hospitality of the Eastern Shore."

For further information contact Thomas O. Meredith, Maryland Department of Agriculture, (301) 841-5770.

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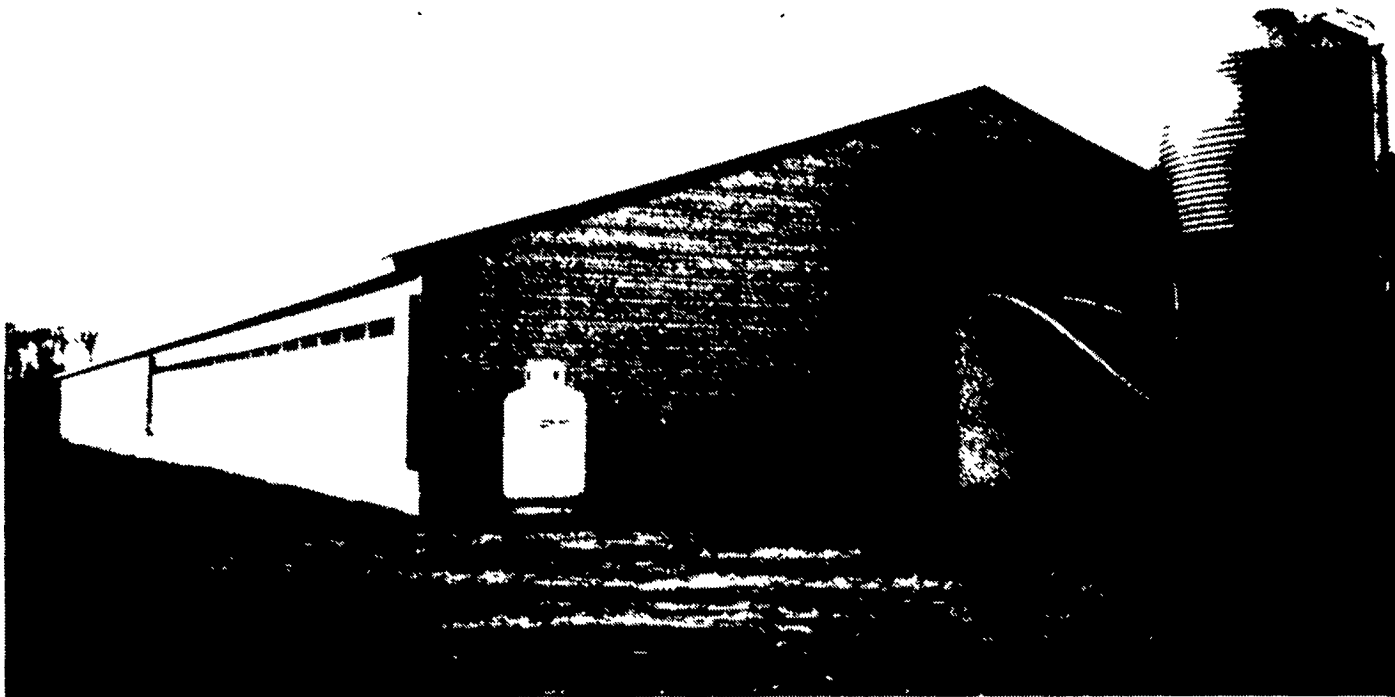
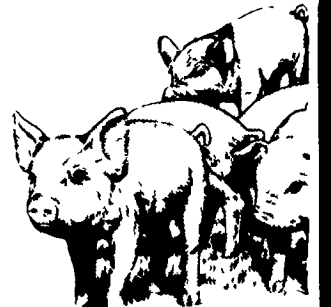
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